

REMARKS

Claims 1-47 stand rejected. Claims 20 and 25 are amended, and claims 35 and 45 are canceled.

Rejections Under 35 U.S.C. 112 and 35 U.S.C. 101:

Claims 35 and 45 stand rejected under 35 U.S.C. 112 and 35 U.S.C. 101. Applicant has canceled claims 35 and 45. Accordingly, applicant submits that the rejections are now moot.

Rejections Under 35 U.S.C. 102:

Independent Claim 1

Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 7,238,878 (Gonsiorawski). Claim 1 recites a solar panel having an element comprising a visually distinguishable feature. The nature of the visually distinguishable feature and the location of the element relative to the solar cells do not completely prevent solar light incident on the panel front from being incident on at least a portion of the array. Unlike most of the prior art which is concerned primarily with efficiency of solar energy harvesting and conversion, applicant's claimed solar panel provides a device that is both efficient and aesthetically pleasing (e.g. may be used for marketing or advertising). While the Office Action asserts that Gonsiorawski's grooves defined by internal reflector facets, and its encapsulant are each a "visually distinguishable feature," as claimed, applicant respectfully disagrees.

In that regard, applicant submits that Gonsiorawski's grooves defined by internal reflector facets cannot be considered an element comprising a visually distinguishable feature, as claimed, for at least two reasons. First, the grooves are described as being either white or black. (Col. 7, lines 9-10). Thus, there is no suggestion of any "feature", merely uniform white or black. Secondly, the grooves, in particular the dimensions of the grooves, are designed specifically to scatter light that passes between the solar cells so that it can reflect off the front surface of the apparatus and impact on the front surface of the cells, thereby increasing the energy harvesting efficiency of the apparatus (Col. 8, lines 39-53). For example, Gonsiorawski's grooves are each about 0.004 inches deep (Col. 4, line 7) and have faces oriented at an angle of about 120 degrees. Based on these dimensions, the spacing of

the grooves can be calculated to be about 0.015 inches. Therefore, because Gonsiorawski's grooves are narrowly spaced apart, and because the facets are specifically designed to scatter light, any feature present on the facets would be blurred and distorted making it visually *indistinguishable*. This is contrary to applicant's claimed solar panel which includes a visually distinguishable feature. Therefore, Gonsiorawski actually teaches away from applicant's claimed solar panel.

Similarly, applicant submits that Gonsiorawski's encapsulant cannot be considered a visually distinguishable feature, as claimed. Gonsiorawski describes its encapsulant as "a light transmitting material," and the role of it appears to be to encapsulate the solar cells while allowing the maximum amount of light to transmit either to the cells or to and from the reflective backing. Clearly, Gonsiorawski's encapsulant is intended to have as little as possible effect on light transmission. Therefore, it would be contrary to Gonsiorawski's teachings for its encapsulant to be or have a visually distinguishable feature, as claimed.

Accordingly, applicant submits that Gonsiorawski fails to disclose any visually distinguishable feature, nor an element comprising such a feature. Therefore, applicant submits that claim 1 is patentable over the cited art.

Independent Claim 20

Claim 20 stands rejected under 35 U.S.C. 102(b) as being anticipated by Gonsiorawski. In particular, the Office Action asserts that the regular array of solar cells in Gonsiorawski, represent a visually distinguishable feature. Applicant has amended claim 20 to limit the feature to a design, a decoration, a picture, a drawing, a sketch, an etching, a marking, a layout, a sketch, a brand, an advertisement, a notice, a sign, a name, a seal, an insignia, a portrait, a scene, a cartoon, a caricature, an icon, a signature, a photograph, an image, a logo, at least one letter, at least one number, at least one word, a calendar, a label, a trademark, a plan, a map and/or at least one marking. Therefore, claim 20 as amended excludes the pattern of cells as cited by the Office Action. Accordingly, applicant submits that claim 20 is patentable over the cited art.

Independent Claims 22, 24, 25, and 29

Claims 22, 24, 25, and 29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Gonsiorawski. Claims 22, 24, 25, and 29 each recite features similar to those recited in either claim 1 or claim 20. Accordingly, applicant submits that claims 22, 24, 25, and 29 are

patentable over the cited art for the same reasons argued with respect to the patentability of claims 1 and 20.

Claims 28, 32, 33, 41, 42, 43, and 47

Claims 28, 32, 33, 41, 42, 43, and 47 stand rejected under 35 U.S.C. 102(b) as being anticipated by Gonsiorawski.

With respect to claims 28 and 41, the product which is made by these processes is patentable over the product disclosed by Gonsiorawski for the reasons discussed above. Accordingly, applicant submits that claims 28 and 41 are patentable over the cited art.

By a similar argument, claims 42 and 43 are patentable over Gonsiorawski as their antecedent claim 20 is patentable over the cited art. Accordingly, applicant submits that claims 42 and 43 are patentable over the cited art.

Claims 32 and 33 claim a solar cell and an array of such cells when used in the solar panel of claim 1. Because the solar panel of claim 1 is patentable, applicant submits that claims 32 and 33 are also patentable over the cited art.

Claim 47 is dependent on claim 20. Because claim 20 is patentable over the cited art, applicant submits that claim 47 is also patentable.

Dependent Claims 6 and 7

Claims 6 and 7 stand rejected under 35 U.S.C. 102(b) as being anticipated by Gonsiorawski. Claims 6 and 7 each recite that the array is either on or between support panels. The Office Action considers Gonsiorawski's two layers of transparent encapsulant to be support panels. However, as described at Col. 6, lines 25-26, the layers of encapsulant have flowed enough to merge together so as to fully encapsulate the interconnected cells. Thus in the final apparatus, these layers are not distinct layers but a merged encapsulant. In the solar panel of claims 6 and 7, the array is either on a transparent panel or between transparent panels. In Gonsiorawski, no such discrete panels are present once the apparatus is fully formed. Accordingly, applicant submits that claims 6 and 7 are further patentable over the cited art.

Rejections Under 35 U.S.C. 103:

Dependent Claim 3

Dependent claim 3 stands rejected under 35 U.S.C. 103 as being obvious over Gonsiorawski in view of U.S. Patent No. 4,454,371 (Folino). Claim 3 recites that the visually

distinguishable feature is removable from the panel. Applicant submits that Folino does not teach such a feature.

Rather Folino discloses a solar device having a transparent removable cover (Col. 4, line 53). As discussed above, this neither constitutes nor comprises a visually distinguishable feature. On the contrary, in order to allow the device to absorb the maximum amount of solar energy, the cover needs to be transparent. Therefore, Folino's cover not only does not but cannot be or have a visually distinguishable feature.

Moreover, the Office Action looks to paragraphs 11 and 190 of the as-filed specification as evidence that a cover may be a visually distinguishable feature, however, the Office Action appears to misunderstand the specification. First, paragraph 11 makes no such suggestion, and makes scant mention of a visually distinguishable feature. Second, paragraph 190, in conjunction with Figure 6, shows how in an embodiment of the invention, a visually distinguishable feature may be present on a cover. Thus the presence of a cover without a visually distinguishable feature, as provided in Folino, in no way anticipates a cover having a visually distinguishable feature, as shown in Fig. 6 of the present invention. Therefore claim 3 not only is novel by virtue of its dependence on claim 1 but also due to the inclusion of a removable element comprising a visually distinguishable feature.

Dependent Claims 8 and 9

Dependent claims 8 and 9 stand rejected under 35 U.S.C. 103 as being obvious over Gonsiorawski in view of U.S. Patent No. 4,341,918 (Evans). Claims 8 and 9 recite that both the front and back of at least some of the solar cells are capable of converting solar energy. Applicant submits that Evans does not disclose cells that absorb energy from both the front and back.

In that regard, the Office Action refers us to a passage in Col. 2 of Evans, which states that the device "relies on a front surface field region . . . to provide an electrostatic field region which assists in sending the carriers to the rear surface of the cell *for collection*." (Emphasis added). Therefore, the rear surface of the cell is for collection of charge generated by the cell, not for converting solar energy into electrical energy. Accordingly, because Evans fails to provide solar cells that can convert solar energy absorbed at both front and back surfaces, applicant submits that claims 8 and 9 are novel not only by virtue of their

dependence on claim 1 but also due to the inclusion of the feature that at least some of the solar cells are active on both front and back surfaces.

Dependent Claims 16-19

Dependent claims 16-19 stand rejected under 35 U.S.C. 103 as being obvious over Gonsiorawski in view Evans, and in further view of U.S. Patent No. 5,080,725 (Green). Claims 16-19 recite that visually distinguishable feature is actavatable or at least changeable. Applicant submits that it would not have been obvious to modify Gonsiorawski to have such a feature in view of Green.

In that regard, Green describes a device in which a solar cell reflects light through a transparent element which may have a visually distinguishable feature. This arrangement is sufficiently different from that of Gonsiorawski that a skilled worker would have great difficulty in combining the two to obtain any workable device, let alone that of the present invention. For example, Green discloses use of a solar cell, not an array of cells having spacings between them. If the solar cell of Green were to be replaced by an array in which there were spacings between the cells (as in Gonsiorawski), a pattern of light would be sent to the transparent layer so that any visually distinguishable feature on that layer would be very difficult to discern due to the overlap of the images. The applicant therefore submits that it would not have been obvious for one of skill in the art to modify Gonsiorawski in view of Green. Accordingly claims 16 to 19 are patentable over the cited art.

Conclusion:

Insofar as the Office Action's rejections having been adequately addressed, applicant believes that the current application, including claims 1-34, 36-44, and 46-47, is in condition for allowance and such action is respectfully requested.

The Examiner is invited to call the applicant's undersigned representative to discuss this application should the Examiner determine such a discussion would facilitate the application's allowance.

DOCKET NO.: SPRU-0012
Application No.: 10/586,941
Office Action Dated: October 16, 2009

PATENT

Date: February 16, 2010

/Jake W. Soumis/
Jake W. Soumis
Registration No. 61823

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439